

Application No.: 10/049,838

Docket No.: 21029-00240-US

REMARKS

The Office Action and prior art relied upon have been carefully considered.

In accordance with the Examiner's instructions, Figs. 1 and 2 have been designated by the label "prior art." Applicant wishes to point out that element 26 discussed in the second paragraph of page 2 of the Office Action does in fact appear in the description on page 11, line 10. A number of informalities in the description have been attended to in the foregoing amendment.

Claims 2, 7, and 8 have been objected to on page 2 of the Office Action. Original claims 1-8 have been canceled and in their stead, corresponding claims 9-16 are being submitted for the Examiner's consideration. These claims are believed to highlight the patentable aspects of the invention as well as avoiding further objectionable language and dependency.

Claims 1-6 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. These claims have been replaced by corresponding claims that clearly set forth the invention in definite terms so that further rejection on this ground is not anticipated.

The drawbacks of the prior art are shown by Figs. 1-3 of the drawings, with distances "X" and "Y" existing between the cooling devices for the different zones of the lehr.

When the gas is located in zones X, Y it is not subjected to controlled cooling so that the annealing curve is discontinuous, as shown by Fig. 3. Such discontinuities are detrimental to the efficiency of the lehr, and will induce an increase of the lehr length. Moreover, the glass ribbon quality may be affected.

The invention, such as defined by the claims avoids the inter-zones "X" and "Y" where the glass ribbon is not submitted to controlled temperature.

Claims 1-6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Vanaschen (U.S. Patent No. 5,125,948).

In the reference, only the cooling zone A works with a heat exchange by radiation (see col. 3, lines 29-35 and col. 5, lines 35-39). In the other cooling sections, B, C, D, or

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B', C', and D' (Fig. 3), the cooling air is directly in contact with the glass ribbon inducing heat exchange by convention, not radiation as required in all zones of the claims.

Moreover, as shown by Fig. 3 of Vanaschen et al., there is some distance between the blowing boxes 96. This distance may be estimated to be 1.5 – 2 times the distance between two adjacent conveyor rollers, i.e., substantially 1m.

The problem of the invention (to delete the distances X and Y between the cooling zones is not solved by the Vanaschen et al. lehr. On the contrary, according to the invention, as recited in the specification at page 8, lines 16-20, "Thanks to this arrangement, the inter-zone region X, where the zones A and B meet in lehrs according to the prior art, and in which the glass ribbon 1 was not correctly cooled, is eliminated."

In the Office Action, the third embodiment shown in Fig. 3 of the reference is referred to. This embodiment is discussed in detail in column 5, lines 35-54 of the reference. It is important to notice that the various zones or sections B', C', and D' are isolated from one another by partitions and each section has its own closed circuit for cooling air. A partition 93 between sections B' and C' prevents the passage of air from section C' to section B' and partition 94 protects section D' from section C'. As explained on page 5, line 46, *et seq.*, each of these sections includes a cooling air current that circulates in a longitudinal direction opposite the direction of glass transport and each of the sections includes identical production and regulation of the cooling air current. Cooling within the lehr of the reference is assisted by blowing boxes 96 described in column 5, lines 55 *et seq.* A blower 99 sends heated cooling air to an external heat exchanger 101, the air being cooled to the desired temperature.

Independent claim 9 sets forth a significantly different structure wherein the heat exchangers, producing heat exchange by radiation, are selectively situated above and/or beneath a transported glass ribbon, within the internal layer chamber, the exchangers being located in each of corresponding pre-annealing, annealing, and post-annealing zones.

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Further, first and second air intake manifolds are respectively connected to the meeting point of the pre-annealing and annealing zones, and the annealing and post-annealing zones. This structure is absent from the cited reference.

Although dependent claims 10-16 combine individually known components, they present additional distinct combinations, as compared to the patent to Vanaschen.

Accordingly, claims 9-16 currently in the application are believed to not only avoid anticipation under 35 U.S.C. § 102(b) but also avoid a *prima facie* case of obviousness based on the acknowledged prior art and the Vanaschen reference. Accordingly, these claims are believed to be in condition for allowance.

In view of the above, consideration and allowance are, therefore, respectfully solicited.

In the event the Examiner believes an interview might serve to advance the prosecution of this application in any way, the undersigned attorney is available at the telephone number noted below.

The Director is hereby authorized to charge any fees, or credit any overpayment, associated with this communication, including any extension fees, to CBLH Deposit Account No. 22-0185.

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2/2/04

Respectfully submitted,

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Attachments

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ANNOTATED SHEET SHOWING CHANGES